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U.S. Army Helicopters and U.S. Air Force Expeditionary Forces: Implications for Halting Military Operations

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Preface

This paper examines the operational concept, which is not entirely novel, of U.S. Army Attack helicopters operating in concert with USAF fighter aircraft. Joint Air Attack Team (JAAT) doctrine and tactics are well established and the practical joint employment of these systems has been prevalent since the Vietnam War. This paper recommends a level of integration that transcends synchronized operations and envisions the formation of a truly joint Aerospace Expeditionary Force (AEF) coalescing planning, training, and deployment functions and employing as a single integrated joint force.

In his capacity as the Division Plans Officer for the 101st Airborne Division (Air Assault) in 1994, the author developed plans to synchronize the employment of AH-64 attack helicopters into Marine Expeditionary Force (MEF) air packages in specific operational plans. This idea draws from the author's experiences as a Crisis Plans Officer at United States Central Command. During two crises in the Persian Gulf, notably *Desert Thunder* and *Desert Fox*, both AEF and AH-64 organizations were deployed to the USCENTCOM Area of Responsibility (AOR) to rapidly project combat power. Although the AH-64s supported potential ground combat operations, the initial intent was to deploy these forces for conducting deep interdiction operations against enemy forces. The argument in this study is that during the initial phase of a Small Scale Contingency, which is also known as the "halt phase" of an evolving Major Regional Contingency, that U.S. military forces would benefit from more closely integrating attack helicopters and air expeditionary forces.

This concept raises a number of potentially interesting questions including: Could the AH-64 supplement or substitute for the A-10 Thunderbolt in some cases? Would it be more efficient in terms of strategic lift and staging requirements in the theater to deploy in this way? Would this more integrated arrangement facilitate more efficient command and control for the Joint Force Commander (JFC) and more rapidly generate combat power at the decisive time and place? In light of the recent Kosovo experience, these issues seem particularly relevant.

This study also examines how joint and service doctrines have evolved. The central argument is that integrating operational forces will

lead to truly joint operations, as outlined in the Department of Defense's *Joint Vision 2020*. If integrating Army helicopters and Air Force expeditionary forces helps to bridge the gap between the U.S. Air Force and U.S. Army doctrine, it could lead to the emergence of new concepts and technologies that will help U.S. military forces conduct joint operations more effectively in the future.

I. Introduction

“We intend to get to trouble spots faster than our adversaries can complicate the crisis, encourage de-escalation through our formidable presence, and if deterrence fails, prosecute war with an intensity that wins at least cost to us and our allies and sends clear messages to all who threaten America.”

General Eric Shinseki, USA Chief of Staff¹

“I am on record saying that I think the days of great armies clashing with great armies in huge land battles is over. If U.S. ground troops are to engage an enemy, it likely will be an enemy that has been demoralized, defeated, and denuded by air forces first. If aerospace power doesn’t achieve strategic control by itself, it certainly leverages hugely, the use of other forces.”

General Michael E. Ryan, USAF Chief of Staff²

“The United States Air Force has always been expeditionary. We are going back to our roots. EAF is a mindset that prepares us to respond rapidly anywhere in the world.”

General Michael E. Ryan, USAF Chief of Staff³

It is clear from the conceptual statements of the Chiefs of Staff of each service that their fundamental philosophical approaches to deterrence, war, and strategic force deployment are not that dissimilar. However, the rank and file perception often reflects a more disparate view. As this author posited a concept for more synergistic joint integration before some of his colleagues, the immediate and often visceral response it elicits was that this concept was either a form of blasphemy or that there was some parochial hidden agenda behind this effort. Nothing could be further from the truth. While unashamed about maintaining a healthy loyalty to his service, the Army, this author remains an unapologetic proponent of air power. One could not serve as a crisis planner in an actively engaged joint warfighting headquarters, and not be impressed by the rapid generation of overwhelming combat power that can be attained by the application of America’s air power. This author may be rightly accused of one form of zealotry, for he assiduously believes that jointness

is the only way America will efficiently fight and win its future conflicts. This concept enhances joint warfare and beyond that, possesses considerable potential to exploit future technology as an expedient to transition the joint force into the future. To further dispel the notion of some hidden agenda, this concept can be further defined by what it is not. In light of the recent Kosovo experience, and the perception by some that Operation *Allied Force* in some way threatens the Army's future relevance,⁴ this concept is not intended to validate or defend either the strategic relevance of the Army or the use of AH-64s for contingency operations. This treatise is emphatically founded on the belief that all future wars and small-scale contingency operations will be joint, and that each of our nation's military forces contribute unique capabilities for which the demand continues to exceed the supply.

While ground forces may not be required for the attainment of limited aims, such as with the potentially seductive example of the coercive use of force demonstrated in Kosovo, any conflict that evolves towards a major theater war, or that ultimately involves the requirement to either control a geographical area on the ground, or destroy an enemy's ground forces will eventually necessitate the use of America's Army. The United States Army will remain relevant as long as there is the need for well-trained infantry soldiers and supporting arms to close with and destroy an enemy through fire and maneuver, a core competency for which the Army is uniquely suited. These same well-trained infantrymen and the combined arms team that supports them have proven time and again their ability to perform ancillary missions that span the operational spectrum. AH-64 attack helicopters predominantly exist to support Army ground forces in combat, but do this best by setting the operational conditions prior to the decisive engagement of ground forces. Therefore, every regional crisis contingency and major operational plan calls for the early and rapid deployment of the Army's AH-64 assets.⁵

The concept of using attack helicopters in military operations is central to the purpose of this study. Since the planning documents of the warfighting Commanders in Chief (CINCs) envision the early deployment of AH-64s and the rapid deployment of air expeditionary forces, a central question for the U.S. defense establishment is whether more closely integrating these forces in future military operations will increase U.S.

military power. To explore this potential, some assumptions must be introduced up front. First, that expeditionary aerospace force doctrine, that defines tailorable, rapidly deployable contingency air forces, will remain operationally viable for the next decade. Second, that the operations tempo and types of operations required for the United States military to undertake will remain fairly constant throughout this period. The implication is that numerous “brush fires” or small-scale contingency operations that require the rapid deployment of joint contingency forces will continue to dominate U.S. military planning. Finally, as the joint force transitions to the future, our nation will continue to expect U.S. military forces to conduct every operation with maximum efficiency.⁶

The U.S. Army and U.S. Air Force have proposed two strategic concepts that appear at face value to conflict, however these concepts have significant similarities. The Air Force promotes the “Halt Phase” concept, which contends that rapidly applied air power can serve as the key element to stop a large-scale armored invasion of a friendly nation before the enemy force can seize critical objectives⁴. The Army has advanced a concept it calls “Strategic Preclusion” which requires joint maneuver and interdiction forces capable of moving with such speed and lethality that a potential enemy realizes he cannot achieve his objectives and ceases further escalation. Yet, one study by two USAF officers has concluded these two seemingly disparate approaches are, for the most part, complimentary and have a good deal in common.⁸ This paper supports that view and carries it a step further by inferring that the inclusion of AH-64s into selected AEF organizations will even more thoroughly enhance the synergy and effectiveness of both strategies.

The framework the Chairman of the Joint Chiefs has developed for the transformation of our future Armed Forces was established in Joint Vision 2010 and was expanded upon in Joint Vision 2020. “JV 2020 is the conceptual template for how America’s Armed Forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness joint warfighting.”⁹ This concept is further defined in the Chairman’s Concept for the *Conduct of Joint Operations*, in which a road map is established for transforming key Joint Vision ideas into joint force capabilities. This road map ultimately leads to implementation with a future in which our 2020 joint capabilities

give us “Full Spectrum Dominance” through a joint team persuasive in peace, decisive in war, and preeminent in any form of conflict.”¹⁰

This paper examines the operational concept of creating a joint AEF in terms of force structure, deployment, doctrine, tactical employment, command and control, and training. It also explores how the “Halt Phase” and “Strategic Preclusion” concepts can be combined to increase the operational capabilities of the U.S. Army and U.S. Air Force. The joint AEF envisioned could provide a living, warfighting test bed to “market” emerging technologies and concepts in a realistic joint operational environment. This concept emphasizes the potential to create buy-in, sponsorship, and to build joint/operator consensus with an inherently joint, integrated and mutually supporting force structure. In exploring the viability of this concept, the paper will discuss potential tactical concepts and emerging technologies that may benefit from this concept.

The paper will also focus on sensitive issues that must be resolved to make this concept viable. Ancillary to an innovation of this magnitude are interservice rivalries, service culture biases, institutional lethargy, and resistance to change. Existing Army and Air Force disagreements over such issues as Air Tasking Order (ATO) integration, command and control, doctrine and structure, and battlespace management will be addressed. This analysis will suggest how the joint AEF could be a catalyst for overcoming those issues.

This study portrays an integrated joint AEF as a near-term solution for enhancing the warfighting effectiveness of both services and as a long-term method for attaining a level of “jointness” in Army and Air Force operations. Every tenet of Joint Visions 2010 and 2020--dominant maneuver, precision engagement, full dimensional protection and focused logistics--are showcased, and potentially enhanced by a joint AEF.

Ultimately, long range planning is about the future consequences of present decisions. Joint warfighters may not always share common visions of either the present or the future, but embarking on a common path may provide the nexus to improve upon the effectiveness of both air and ground components as they collectively face, and prepare for, an uncertain future.

II: Operational Concept

The new demands placed on the U.S. military during the last decade have forced the military services to change their approaches to war. For example, the U.S. Air Force no longer focuses on threats as the basis for military planning. During the Cold War, the Air Force focused on containment, a large forward presence and a “fight in-place strategy.” Today’s 21st century USAF is a smaller force designed for global engagement with the ability to respond to major regional contingencies such as *Desert Storm*, small scale contingencies like *Desert Fox*, and military operations other than war as were conducted in Haiti and Bosnia. While the Air Force still relies on forward bases, it is required to respond around the world and to operate from remote bases with minimal infrastructure and support.

The increasingly expeditionary nature of the Air Force does not alter how it will respond to the theater CINC’s war plans, nor does it change the total forces required for deployment under the time phased force deployment documents that allocate forces for specific plans and contingencies. Instead, it task organizes deploying forces into units tailored to specific missions. These organizations are particularly adaptive to small-scale contingency scenarios, and “flexible deterrent options” that provide the foundation and “opening moves” for most major theater war plans.¹¹

The development of aerospace expeditionary forces is helping to institutionalize an expeditionary culture for the USAF. These expeditionary forces are designed to be responsive, light, lean, deployable, and tailored to the needs of theater CINCs. At the same time these forces are also designed to integrate the reserve and guard components while providing stability and deployment predictability. Aerospace Expeditionary Forces (AEFs) are comprised of forces that forward-deploy to the contingency from the continental United States (CONUS). Additionally, these forces can be augmented by strike packages that emanate from CONUS to a target area and return to CONUS on a single sortie, which can be on-call to support the AEF.¹²

For the USAF to more effectively manage operations and personnel tempo in this volatile and uncertain world, AEF organizations follow a life cycle schedule much like the U.S. Navy does to manage its carrier battle groups and air wings. This life cycle encompasses a period on-call or deployed, a stand down period for leaves and recuperation, a period of normal training and exercises designed to maintain readiness, and a period to “spin-up” and prepare for the next AEF deployment or on-call period. This life cycle is fundamental to the sustainability of the concept over time. A tension and challenge that remains is in the allocation and management of low density, high demand assets such as intelligence and electronic warfare platforms, Special Operations assets, and combat search and rescue aircraft, common to nearly every contingency requirement, but in very short supply.¹³

U.S. Army units must respond to the same range of contingencies. For this reason, many U.S. Army organizations including the Eighteenth Airborne Corps, Special Operations, and even some heavy task forces continuously operate with a rapid deployment or expeditionary mind-set. Some Army units, in fact, deploy on schedules that are nearly concurrent with AEFs and most theater CINC OPLANS and contingency plans are formulated to flow forces into theater to be mutually supporting and complimentary. For example, AH-64s are scheduled to deploy in the early phase of most scenarios, especially when the U.S. forces may confront an armored or mechanized threat.¹⁴

For background, the AH-64 is the United States Army's most advanced attack helicopter and is armed with an array of firepower that includes a 30mm chain gun and the capability to carry up to 16 Hellfire anti-armor missiles or a combination of rockets and Hellfires.¹⁵ Under high demand for their versatility, precision, and lethality, the AH-64 is a tried and proven day and night tank killer with excellent tactical range, target standoff and loiter time. Its capabilities enhance, complement, and support air to ground platforms, such as the USAF A-10 Thunderbolt, an aircraft that many of the AEF configurations bring to the fight. The A-10 is an equally battle tested and capable platform that can carry a wide array of air-to-ground ordnance.

While not suggesting that Apaches are viable for every AEF configuration or for every contingency, this paper posits that there are

several advantages in integrating Apaches into selected AEF force packages to conduct specific missions for which the AH-64 is well suited. These missions include attacking tanks under trees or in partial hull defilade--meaning that only the turret, or a portion of the turret, can be acquired or engaged. Other missions include precision engagements of targets with high collateral damage potential, engaging mobile targets, and operating in weather conditions that would strain the capabilities of USAF air-to-ground platforms. When employed symbiotically within AEF strike packages, the AH-64's tactical advantages can be maximized and its vulnerabilities reduced. By integrating the AEF's intelligence, surveillance, and reconnaissance (ISR) platforms into a package of deep strike interdiction aircraft and other air-to-ground weapons, such as the A-10, the AH-64 can attack targets based on its unique capabilities. The concept is to employ the AH-64 in AEF strike packages in order to maximize its tactical advantages and reduce its vulnerabilities.

There are many similarities between Air Force and Army Aviation tactics for conducting ground operations. For example, AH-64s best support Army ground combat forces by establishing the operational conditions that will either preclude a close fight or severely degrade an adversary's combat power prior to his closure with the friendly ground force. Much like USAF interdiction platforms, Apaches are best employed in an interdiction role, massed against enemy formations or other targets that facilitate enemy maneuver, when they are most vulnerable to attack in space and time. Apaches can perform a close air support role but optimally, Army Aviation planners should strive to employ them in ways that mitigate the need for last minute close air support missions.

Historically, the AEF concept has already proven effective in response to numerous recent contingencies. Operation *Desert Fox*, conducted in the United States Central Command (USCENTCOM) area of operations December 1998 is one clear example. For *Desert Fox* and for the deployments and contingency plans that preceded it (such as *Desert Thunder* in January 1998), AH-64s were an important aspect of the plan. A CONUS based battalion was alerted and deployed to the theater prior to the execution of contingency operations to counter to any Iraqi reaction threatening Kuwait.¹⁶ While Iraqi forces that were massed closest to Kuwait could rapidly cross the border, those forces would be highly

vulnerable to attack by Apache helicopters during the day or night and most weather conditions. Much like during *Operation Desert Storm* the Apache, and its 16 Hellfire anti-armor missiles would have proven highly lethal against enemy forces massed in the desert.

Minimal combat ground forces were initially deployed for either *Desert Thunder* or *Desert Fox*. The intention was to use AH-64s for interdiction attacks, rather than close air support during ground combat operations. If ground operations had been necessary, the AH-64s would have been integrated into the ground tactical plan, but in the initial phase of the operation were allocated to support air operations. While this maximized available resources and was a tactically sound mission for the Apaches, it is notable that they were to be included in the Air Tasking Order (ATO) yet remain under Army command and control.¹⁷ It might well have been more efficient for the Apaches to have been under JFACC control during the interdiction phase.

“There should be no difference, once we get our heads screwed on right, in terms of integrating our capability. We’ve got this nagging fear that somehow, if we turn over our organization to somebody in another uniform, that that organization is going to suffer as a result of that. And I just fundamentally disagree with that.”

General Jack Keane, USA Vice Chief of Staff¹⁸

General Keane’s use of the word “integrating” is illuminating. This joint AEF concept is designed to integrate the force, not to merely synchronize it. This difference is fundamental to the discussion. The terms are not analogous and the USAF and the Army reflect these differences in their respective doctrines. The Army recognizes the word “synchronization” which it defines as, “the ability to focus resources and activities in time and space to produce maximum relative combat power at the decisive point.”¹⁹ From the USAF perspective, “integration” is defined as: “different aerospace forces capabilities are blended together and used in combination to create specific effects; integration in Air Force parlance, is about putting different capabilities together for a specific purpose.”²⁰ In recent briefing slides provided to the Air War College, the Air Force

Doctrine Center stated that the USAF “challenge is to successfully integrate (not synchronize) the joint components into a cohesive force.”²¹

While integration and synchronization have similar meanings and are often used interchangeably, the subtle difference in their meanings is relevant. It is clear that in a joint environment, component forces could conduct largely independent operations while still being synchronized at the decisive time and place. This creates harmony and synergy at the objective or the target, but may not create the level of integration required for seamless joint operations. This is perhaps best exemplified in the previously cited *Desert Fox* example when the Army was intended to maintain control of AH-64s that were assigned interdiction missions supporting the CINC’s air operations. True integration requires a more holistic approach towards coalescing the joint force that encompasses training, deployment, staging, command and control and employment. As alluded to earlier, the operations of Army attack helicopters and USAF fighter aircraft have been synchronized for years. This paper proposes an idea that transcends synchronization and requires a high degree of joint integration. This integration includes joint pre-deployment training, a joint deployment operation, forward basing with shared resources, and is intended to culminate with fully integrated combat operations.

This concept would first require the identification of theater contingency plans that direct the use of AH-64s prior to the planned employment of ground forces. For plans in which both an AEF and an Army Apache package of some size are envisioned, integration may prove beneficial. This would require the two services to conduct joint training, exercises, and liaison prior to deployment. A command and control structure would have to be agreed upon based on the size and composition of the total joint AEF. The Joint Force Air Component Commander (JFACC) and Joint Force Land Component Commander (JFLCC) would, under the direction of the respective CINC, have to agree on the command and control arrangements. Further, they would need to specifically decide if or when, should ground operations ensue, command and control of the Apaches should revert to the JFLCC.

The integration of the deployment and staging of forces offers much potential. An AEF that includes AH-64s may not require as many A-10s, an asset that has routinely been over tasked by recent AEF deployments.²²

There are also potential savings by reducing the duplication of maintenance personnel, communications support, fuel handlers, security forces, and other administrative and logistical support. Any economies realized in basing requirements, support requirements, or logistics benefit the entire joint force. Logistical and other support requirements effectively dictate the pace of sustainable operational tempo. Resources that can be shared by the joint force effectively become force multipliers. A force that has trained together and deploys as a team will inherently develop trust and cohesiveness. The redundancy born of uncertainty over what a joint counterpart will bring along to the fight can be eliminated by this more deliberate integration. Long before the joint AEF deploys, the Apache force will be integrated and the size and composition of the Army component, clearly established. Basing rights are imperative for AEFs and must be continuously re-negotiated. The integration of staging and basing should enhance planning efficiency and ease the burden on host-nation support requirements. While tactical considerations such as mission differences and aircraft ranges will not allow for the use of shared base structures for every contingency, there are many operations such as in South West Asia and the Korean peninsula that will make co-location feasible.

Recognizing the operational requirement for a lighter, more agile, and more strategically deployable combat force, the Army is designing a new combined arms medium brigade known as the objective brigade. This force is designed to strike a balance between deployability, firepower, force protection and sustainability. While by orders of magnitude more deployable than any current mechanized brigade-sized task force in the Army, the new proposed medium brigade still bears a substantial airlift pricetag.²³ Another rapidly deployable configuration worthy of consideration is an Apache helicopter based “Aviation Heavy Task Force” which includes up to 3 AH-64 battalions (72 helicopters), an infantry battalion sized security force, a company team comprised of utility and medium lift helicopters, an artillery battery, a combat engineer company, an air defense platoon, a command and control element, and adequate logistics support to supply the force (minus fuel) for 10-15 days. This force can be deployed with approximately 45 C-5 equivalents and 70 C-141 equivalents within 96 hours.²⁴ If a force package of this firepower,

mobility, and versatility were integrated into an AEF, it would vastly increase the operational capabilities of the U.S. military.

In theaters that involve deploying AEFs and Apaches, this force could be used in virtually all-combat operations. The integration of USAF platforms and Apache helicopters will enhance the military power of AEFs by creating more efficient, survivable, and lethal forces. This force will be useful in reconnaissance and security operations as well as attacking mobile mechanized forces or attacking targets that could involve collateral damage.

In the 1999 Kosovo operation, the Army Aviation Task Force was sharply criticized for its training, personnel and equipment readiness, deployment time, and the size of the overall package and number of C-17 platforms required for its airlift.²⁵ What deployed to Albania in support of Operation ALLIED FORCE was in reality a large Army task force, which was larger than the support force required for using Apache helicopters in military operations. If the Apaches were fully integrated into JFACC operations and based with other forward deploying assets, the Army force could have been much smaller. While more integrated basing and logistics could have reduced the Army's structure, the fact that Apache helicopters were initially ordered to deploy to Macedonia exacerbated the logistics problems.²⁶

The air movement of a self-deploying Army aviation task force of 61 helicopters and the logistics tail required for their command and control, maintenance, security and support did not require the 442 C-17 sorties (22,397 short tons) attributed to the deployment and sustainment of *Task Force Hawk*. While this force was based on the likelihood that it would participate in the subsequent peacekeeping mission, *Task Force Hawk* was a large and unwieldy Army attack helicopter force that was too heavy to deploy and sustain. However, it is essential to understand that this package could have been much smaller if it were part of a joint AEF that was specifically tailored, with prearranged command and control procedures, for this type of contingency.²⁷ In fact, based on force packaging requirements to deploy aviation assets and support for similar-sized Army Aviation contingencies in other theaters, 18 C-5 and 35-40 C-17 equivalents is a more realistic airlift price tag (C-5 airlift is required assuming the helicopters are not able to self-deploy).²⁸ This number could likely be even further reduced with a fully evolved joint AEF specifically

tailored in advance for this contingency and established with a prearranged command and control and support structure in place.

Once Task Force Hawk was established on the ground, joint command and control issues immediately surfaced. The fact that the Apaches were never employed in combat may be at least partly the result of a perceived lack of joint integration. While risk of losing Apaches to the formidable air defense umbrella was the commonly cited reason for the AH-64's not being used, there was a discernible lack of trust between the USAF and the Army.²⁹ During the previously cited roundtable at the Army Aviation Association of America's annual convention General Jack Keane labeled the Army's thinking on the use of Apaches in Kosovo "dead wrong." According to General Keane, Army air assets, particularly the Apache, must join the roster of tools available to the JFACC.

"I can tell you straight up that there is usually resistance to what I'm talking about. It boggles my mind, but we still have senior leaders, people who wear stars—and obviously a bunch below that—that don't recognize that if you are going to fly Apaches at distance and range, it's got to be on the air tasking order. You have to understand we're trying to conduct an air campaign. If you're going to fly at range and distance into that air campaign, then your participation has got to be integrated. You may at the same time be conducting a ground campaign, but to be integrated in that air campaign, you have got to be on the ATO. And it's in your own self interest to support it."³⁰

The Kosovo example and General Keane's prescient analysis of it underscore the need for greater Army-Air Force integration. This integration many have precipitated a level of jointness that could have transcended the problems that plagued the Kosovo operation. In the following chapters, this concept will be further illuminated, first analyzing it in terms of emerging Army and USAF strategic doctrine, then in the context of the future JV 2010 construct. Finally, the parochialism, interservice rivalries, and institutional and service biases that threaten to infect this sort of innovation will be addressed and ways in which these impediments might be effectively pre-empted will be suggested.

III. Halt Phase versus Strategic Preclusion: Doctrinal Battle or Consensus?

“The new timetables of this New World dictate that to be the relevant force of choice for the nation for emergency response, for deterrence by putting soldiers on the ground or for warfighting, we have to get there faster.”

Secretary of the Army Louis Caldera³¹

The point of the “decisive halt” is to force the enemy beyond their culminating point through the early and sustained overwhelming application of air and space power. As the “decisive halt” phase unfolds, continuing assessments will be ongoing. As the initiative and options of the aggressor decrease over time, U.S. and allied options or “branches and sequels” increase.

Air Force Doctrine Document 1³²

It is clear from the cited passages, that arriving at the earliest possible time with the maximum attainable combat power is clearly the objective of expeditionary military operations. It is equally clear that with minimal acquiescence by both services, a shared vision of joint expeditionary warfare could emerge. To that end, this paper’s introduction provided the basic definitions for both the USAF “Halt” Doctrine and the Army’s emerging Strategic Preclusion concept. Here, the paper will delve more fully into their underlying meanings and attempt to place these ideas into the context of other evolving doctrinal thought. In developing this construct, it will be clear that there are ways in which the integration of AH-64s into selected AEF organizations may help bridge the gap between these two ideas and set the stage for more synergistic future operations.

The national security strategy states, “We must maintain the capability to rapidly defeat initial enemy advances short of enemy objectives in two theaters in close succession.³³ While the AEF concept was not initially designed to fight major theater war scenarios, it is likely that AEFs will be deployed as components of flexible deterrent options or

as forces deployed for contingency operations that may precede major theater wars. In the USCENTCOM Area of Responsibility (AOR), for example, past experience would indicate that AEFs would likely form the foundation for the major theater war force package. For this reason, the AEF must be considered a key enabler for any viable halt phase concept. Likewise, as has already been discussed, the AH-64 is a vital component of every theater war plan. The Apache is thus an equally important enabler for an Army that wants to attain the level of rapidly deployable lethal combat power demanded by the strategic preclusion concept.

The viability of strategic preclusion is inextricably related to available strategic lift. Any force package envisioned for strategic preclusion must be deployable by a lift package of a size that can be reasonably expected to be available, and not predicated on the best-case scenario. Maximizing strategic airlift by deploying the AH-64s with the AEF, and employing them in an integrated manner under the JFACC during the halt phase of a given contingency operation would allow the Apaches to immediately contribute to the fight and establish the conditions for strategic preclusion. Should the Army deploy either the new medium brigade or another tailored force, and a ground operation ensue, the Apaches can revert to Army control and support the ground fight in their traditional role.

The concepts of halt phase and strategic preclusion were combined into a joint concept in the Joint Interdiction Study published in August 1999, which introduced the new term of “dislocation” for reducing the value of enemy military power.³⁴ By integrating the concepts of “halt phase” and “strategic preclusion,” the principle is that interdiction prevents the enemy from adapting and recovering to U.S. military operations, and ensures the effects of U.S. military operations are as permanent as possible.³⁵ The concept of adding AH-64 helicopters to AEFs is consistent with giving military commanders greater capabilities in both halt phase and strategic preclusion operations.

While the U.S. Army’s doctrine is oriented in terms of geography and terrain, the U.S. Air Force uses an approach that is functionally oriented. Airmen view the application of force more from a functional than geographic standpoint and classify targets by the effect their destruction has on the enemy rather than by where targets are physically located. Yet, joint plans, even for contingency operations, are typically written land or

maritime-centric with aerospace power added to support.³⁶ This mindset more fully embodies the definition of synchronization than integration.

The fact that most recent U.S. contingency strike operations began with strikes by joint air and maritime forces raises interesting questions about defining contingency operations in terms of geography or terrain. While contingency operations that could escalate into a major theater war are likely to require the use of ground forces, this depends on the conditions that existed during the halt phase and its effects on enemy forces. Adding AH-64s, particularly in a configuration like the Heavy Aviation Task Force previously described, provides the AEF added versatility during the halt phase while simultaneously establishing the battlefield conditions for the application of ground combat forces.

The full integration of joint forces is what produces synergy. By adding AH-64s to the AEF the gap between the notions of force and terrain orientation is closed and military practitioners are inexorably drawn towards the realm of interdiction based on the total effects rendered upon an enemy force.

Whether one embraces Halt Phase, Strategic Preclusion, or the new concept of Interdiction/Dislocation, it is clear that contingency operations are becoming expeditionary for every service. They are also joint and will ultimately be conducted by the warfighting CINCs who have both the operational need and the legal empowerment to be force integrators. The more the services can do preemptively through doctrine, organization, and culture to integrate their respective forces, the more prepared they will be to support the CINCs' joint warfight. Efforts like the joint integrated AEF support this new level of integration and ideally help pave the way to the future...a future the Chairman first described as JV 2010.

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IV. The Road to Joint Vision 2020

JV 2020 is a holistic and systemic process. It is not simply a matter of developing a multiplicity of new technologies or creating, or radically altering, force structure. Instead it is about institutionalizing a process of total joint force integration. It requires a new mindset and “thinking out of the box.”³⁷ The four pillars of JV 2020—dominant maneuver, precision engagement, full dimensional protection and focused logistics—are common elements inherent to the core competencies of each individual service. Through total integration of the joint forces and capabilities, the joint effort in each of the four pillars will exceed what can be generated by a single service. Information is the critical enabler that modifies every pillar.³⁸

The original architects of the Chairman’s vision selected a model widely used within the United States Army to illustrate the new ideas, methods, and innovations that will be required to realize the Joint Vision. Referred to as DOTMLP, the model incorporates the following functional areas: joint doctrine, agile organizations, joint education and training, enhanced materiel, innovative leadership, and high quality people.³⁹ With this model as a construct, the concept of integrating AH-64s into an AEF will be explored.

Joint Doctrine: While the U.S. military has entered an era in which air forces can be the supported force in joint contingency operations or during the halt phase of protracted campaigns, the problem is that current joint doctrine has been slow to reflect this shift. However, this concept was effectively demonstrated in *Operation Desert Fox* and *Operation Allied Force*, and was consistent with the principles in Joint Vision 2020 that mandate functional command and control arrangements when they are appropriate. Integrating AH-64s into AEFs is another example. The problems of Air Tasking Order integration, control of joint fires, command and control procedures, to include the linkages to joint systems and the real-time dissemination of intelligence products, and myriad other challenges, will be more effectively addressed through hands-on practice than through intangible theory and conjecture. Doctrine becomes dogma if it either lacks credibility with the operator, or cannot be feasibly applied.

The best way to make doctrine relevant is to develop it in the crucible of actual operations where practitioners can develop and nurture it.

Agile Organizations: This is the nexus of the model for this integration concept. The joint AEF enhances what is inherently a very versatile and lethal expeditionary force. Developing the platforms and the degree of information fusion necessary to attack critical mobile targets--their detection, tracking, engagement and assessment--continues to consume valuable time and other resources throughout DOD. Clearly, this is one area for which the fully integrated Joint AEF could provide a valuable test bed, particularly under the umbrella of the United States Joint Forces Command (USJFCOM) which has the functional responsibility for joint experimentation and JV 2020 concept evaluation. If the U.S. military is to improve the effectiveness of command and control as well as surveillance and reconnaissance, it must integrate the advanced command and control technologies possessed by each of the military services.

Joint Education and Training: As discussed, this Joint AEF concept will mandate an integrated approach to training that goes beyond the scope of today's joint exercises. It means the USAF and Army must inculcate their respective officer corps with a new idea of jointness that transcends current practice. In response to General Keane's previously cited rebuke of the Army's "myopic view" of ground operations, USAF exercise planners have already begun to make overtures towards a broader program for training AEFs to work with Apaches.⁴⁰ This is not the level of integration that could be achieved through full integration, but it represents a start. Training and education programs that accompany the development of the Joint AEF will foster cohesion, esprit, and trust. As technology helps the services overcome the challenges of integrating units for training and exercises, the joint AEF could provide an optimum organization for testing emerging concepts. For example, the concept of distributed mission training involves the use of simulations to enable units at different locations to train together through an interactive computer network. As these technologies are fielded, the new Joint AEF can put them to the test in the crucible of actual practice.

Enhanced Materiel: The U.S. military will need innovative methods for developing and fielding new technologies. For example, hyperspectral imaging could revolutionize the ability to use automatic target recognition

and discrimination technologies. In fact, this new technology will be far from mature until the technological and operational communities are able to develop enormous libraries of target signatures for environmental, atmospheric, and physical conditions. The USAF is working vigorously to mature this technology.

Meanwhile, the Army is continually developing and refining the target acquisition system for its new Longbow Apaches. One aspect of this system is millimeter wave radar, which can discriminate targets by vehicle type at weapons standoff ranges. As these two important technologies evolve, the “living test-bed” of the Joint AEF could potentially make them mutually supporting. The combination of hyperspectral imaging and millimeter wave radar could potentially make both target recognition systems more effective.⁴¹ With the Joint AEF in place, JFCOM could develop the joint doctrine, tactics, techniques and procedures, and training programs concurrently with the test fielding of the new equipment. This is the enabling systemic approach that will expedite the realization of JV 2020.

Innovative Leadership: Leadership is effectively the force multiplier for JV 2020. As military leaders at all levels understand how *Joint Vision 2020* is changing the U.S. military, it is inevitable that new solutions to intractable problems will emerge to improve U.S. military capabilities. Leaders who develop and shape innovative joint forces, such as the Joint AEF, will master new information technologies and thereby enhance their joint capabilities. Leaders in this fertile joint environment will gain an understanding of full dimensional joint integration and possess the capability to shape and control the future battlespace with a responsive, versatile, and lethal force that is empowered by the most advanced technology of both services.

High Quality People: JV 2020 relies on the retention of a quality force. While senior and middle level leadership are important to the success of a new endeavor like the Joint AEF the value-added that will be achieved by bringing together our younger officers, soldiers and airmen in this truly joint environment cannot be overstated. The biases and rivalries born of single-service orientation and the accompanying lack of trust, can easily be abolished by bringing talented airmen and soldiers together under a common banner for a shared mission. History has shown us that

when we have brought forces together in a similar manner, they have generally learned to overcome any impediments and have accomplished their missions admirably. This quality force is essential as they will be the impetus for the practical solutions that will make the Joint AEF concept functional. They will also take good equipment, technology, and procedures and make them better by application, further innovation and by routinely training as they intend to fight.

V. Transcending Interservice Bias and Parochialism

“Jointness as originally conceived by (recent legislation), means using the right capabilities, under the right circumstances, at the right time. It does not mean ‘little league’ rules where everyone gets to play. It does mean vanguard forces where units of all four services are inextricably woven together. And it certainly does not mean creating a climate of intolerance where honestly highlighting the relevant strengths of several service options, is, by definition ‘unjoint’.”

Retired USAF General Michael J. Dugan⁴²

The concept of integrating U.S. Army AF-64 helicopters and U.S. Air Force Air Expeditionary Forces is bound to generate parochial responses within some military communities. But that parochialism is manageable because the U.S. military increasingly organizes, deploys, and employs military forces in joint operations. Furthermore, the theater CINCs organize, tailor, and command and control forces in ways that are left largely to their discretion, which implies joint doctrine provides the CINCs the latitude they need for innovation. While this joint AEF concept, if embraced, would undoubtedly result in some doctrinal revision, nothing in current joint doctrine conflicts with this proposal. In fact Joint Pub 3-0, capstone doctrine for joint operations, very clearly supports both the concept of integration and the role of Joint Force Commanders as the integrators.⁴³

As the ultimate benefactors of the synergy created by this integrated and joint AEF, the warfighting CINCs have the authority to make it work. These commanders are unlikely to permit subordinate commanders to abuse the resources of another service. Instead, they will build teams, delineate clear missions for their forces, and phase the deployment and employment of the integrated AEF into an operation.

Former Army Chief of Staff, General Dennis Reimer and former USAF Chief of Staff, General Ron Fogelman expressed this new level of Army-Air Force cooperation in an article for *Joint Forces Quarterly*. They advocated the premise that the JFACC should be the supported commander for overall air interdiction, counterair operations, theater

airborne reconnaissance, surveillance and target acquisition and strategic attack, when air provides the bulk of the capability. This mindset further supports both the emerging doctrine and the pattern of operations established by both *Desert Fox* and *Allied Force*.⁴⁴

The CINCs then, are the likely advocates this concept. They write the plans, request the forces and integrate those forces into the fight. The services, however, within their Title 10 mandate to man, train, organize and equip the force may be more critical. The competition for budget dollars has the potential to drive a wedge between the services and derail concepts of joint integration before they leave the drawing board. Recognizing this inherent tension, but also the doctrinal similarities between the emerging expeditionary concepts of the different services, retired USAF General Mike Dugan noted that there is a need to bring these concepts and doctrinal similarities together to form a better joint working relationship.⁴⁵

Ultimately, what may foster a new level of interservice cooperation is the context of the times. Slowly, but inexorably, the services are being drawn into a new level of jointness. The Secretary of Defense, the Chairman, and the Service Secretaries are unequivocally behind JV 2020 and are firmly supporting further force integration. With Joint Forces Command assuming an ever-increasing role in developing the JV 2020 enablers that will make greater jointness a reality, the conditions are established for new initiatives to emerge. Exercises, such as Joint Forces Command, Joint Contingency Force Advanced Warfighting Experiments that will further test and evaluate emerging JV 2020 concepts, doctrine, and technological innovations, provide an excellent opportunity to lay the foundation for the integration of AH-64s into a Joint AEF and test their employment under JFACC control.

It is no longer a quantum leap to consider a philosophical environment within the services where this sort of an “out of the box” concept could become reality. Interwar periods, while resource constrained, are often fertile times for intellectual stimulation and innovation within the military. With the level of support shown by the military’s most senior leadership and the creation, in USJFCOM, of a functional headquarters optimized to coalesce the efforts of the services and the supported CINCs, there is no reason to believe that parochialism

could derail this initiative if in its initial implementation it demonstrates the potential to bear fruit. The CINCs are the customers, and if the war plans they create and may ultimately implement call for the employment of both the AEF forces and the AH-64, they will inevitably be drawn into a greater level of integration. The more the services can do to promulgate a healthy union, only serves to make that integration more efficient and more complete. Recognizing, however, that in an era of diminishing resources, competition, and rivalries, institutional inertia will still exist. This section concludes with a passage that aptly reinforces the role of the CINCs in fostering integration for the warfight.

Amid a welter of change, by 2010 the reorientation propels the services into head-on conflict. As the weapons which could attack operational and tactical land targets proliferate in every service, each component fights to retain battlefield control of its systems in accordance with service doctrine and culture. In the end the Armed Forces do not grasp the nettle. In the end the CINC has to.⁴⁶

The functions that the services are empowered to perform by Title 10 mandate can conflict with the concept of jointness. While some might argue that the sometimes-antithetical relationship between the services and the CINCs creates a healthy tension that provides a centering influence, the frantic pace of change in today's strategic environment may demand that the CINCs become even more compelling in their demand for efficient force integration.

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VI. Conclusion

“Senior officers on the operational level are central to the drama that translates strategic goals into tactical action. They must not only constantly link the strategic and tactical levels but comprehend the actions of their opponents in a similar context. How they interpret missions and employ their forces dominates operations. This is why an integrative structure of multiservice command and control must exist on the operational level that induces military leaders to interpret information and activity in ways that exploit capabilities across service lines.”

Colonel Douglas A. Macgregor, USA⁴⁷

This paper has focused on joint integration, a concept that transcends synchronization and becomes vital to the realization of JV 2020. In their roles as warfighters, the geographic CINCs and their subordinate functional commanders are the joint force integrators. Accepting its role as the force of choice to rapidly project lethal and precision combat power anywhere in the world on short notice, the USAF has institutionalized its evolution towards becoming an expeditionary Air Force. Rapid Halt and Global Power are operational concepts that reflect this expeditionary mindset. The Army faces a similar challenge and is undergoing an institutional renaissance with the ultimate aim of maintaining a force mix capable of responding with adequate heavy forces to conduct higher end contingencies while concurrently developing and fielding a lethal, yet lighter and more deployable, medium brigade. The Army’s strategic preclusion concept operationalizes this expeditionary concept. The paper established that these concepts, when boiled down to their elemental components are complimentary. There exists more consensus than dissent.

As both forces face the current challenges while also looking to the future, the idea of an integrated AEF that maximizes the deployment and combat power generation potential of both forces while concurrently adding to the options of the CINC has been posited as an option to consider. It is well established that both AH-64s and AEFs will be some of the first combat assets to arrive in any theater of conflict. For an

integrated joint AEF to be feasible, both forces will have to compromise and work together. The Army must accept the fully doctrinal notion of the JFACC being the supported commander during initial air operations. The Army must also consider the viability of this Apache force as another rapidly deployable alternative to the new medium brigade, not the only option, but a complimentary one. Perplexed by “the silence of the Army’s Aviation community when new concepts and ideas should have been roiling the doctrinal waters,” Retired Army Colonel Robert Killibrew, writing in the January 2000 edition of Army magazine, challenged the Army Aviation branch to step up to the plate and offer some fresh ideas.

Army Aviation, with its increasingly long strategic and operational legs, should be thinking big and fighting for a prominent role in the Army. The Army’s leaders have a right to expect this.⁴⁸

While not suggesting that attack helicopters should totally supplant the new medium brigade and be the force of choice for every contingency, the Heavy Aviation Task Force model this paper introduced, is a very lethal force that provides more combat power than the medium brigade with a smaller deployment bill. Advocating a force of this nature, particularly when it is symbiotically orchestrated into a larger joint force—the joint AEF—may be a worthy position for the Army Aviation branch to champion. For its part, the USAF would have to work closely with the Army on the functional areas of full integration to include training, maintenance, deployment, basing, and employment that will make the concept viable. Purposely, this paper delved more fully into the “why” then the “how.” Fully developing this integrated joint AEF will be a detail intensive challenge for both services. This analysis suggests however, that the return may well justify the investment.

This journey towards the realization of JV 2020 will not be a serendipitous excursion, but instead a deliberate course established by trial and error, test and retest, and with milestones to pave the way. The joint AEF is potentially one of those milestones, a means to test emerging joint systems and concepts in the crucible of a living real-world test bed, while it evolves towards the future. With USJFCOM getting more fully established in its JV 2020 caretaker role, the integrated joint AEF could be

the catalyst for testing and experimentation into new technologies in command and control and information that can be evaluated at the leading edge by the nation's "first to fight" forces while they perform their operational missions. JV 2020 can only become a reality if the enabling concepts and technologies are developed, tested, and validated. The joint AEF is one means to that end.

The research established that key leaders and operators in both services embrace similar visions of the future and similar orientations to warfighting. The CINCs as the customers inherently will support any effort made by the services to expedite and streamline the efficiency of delivering trained and ready combat forces to their respective theaters. As established at the onset, Apaches and AEFs are currently being planned for deployment to the same theaters at the same time, to conduct missions under the same planning documents. Can these forces somehow be integrated to make them more capable, versatile and responsive while also building for the future? The answer must be, "yes." Current doctrine and concepts and our shared visions of the future will demand this level of integration not only for the AEF, but for other joint forces and functional capabilities as well.

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Notes

1. General Eric K. Shinseki, The Army Vision: Soldiers On Point for the Nation ... Persuasive in Peace, Invincible in War. Available from <http://www.army.mil/CSAVision/default.html>, 21 October 1999.
2. John A. Tirpak, "The Leverage of Airpower," *Air Force Magazine*, May 1999, 34. Mr. Tirpak quotes General Ryan from an interview.
3. General Michael E. Ryan, speaking as an introduction for a videotape presentation supporting a lecture by Colonel Ed Rice USAF, subject: "Expeditionary Aerospace Force," to the Air War College, 13 November 1999.
4. John T. Correll, "Lessons Drawn and Quartered," *Air Force Magazine*, December 1999, 2. Also: Robert Suro and Bradley Graham, "Army Plans Lighter, More Mobile Forces," *Washington Post*, October 8, 1999, 4.
5. The author served as the G3 Plans Officer in the 101st Airborne Division (AASLT), XVIIIth Airborne Corps and as a J3, Joint Plans Officer for United States Central Command. In both positions, he personally worked the Time Phased Force Deployment Lists for all regional plans. While the Chief of Doctrine for the United States Army Aviation Center the author had detailed knowledge of the potential contingency deployment requirements for every active component AH-64 battalion.
6. John A. Tirpak, "Strategic Control," *Air Force Magazine*, February 1999, 27.
7. Elaine M. Grossman, "Duel of Doctrines," *Air Force Magazine*, December 1998, 30-34. Referenced in this article is Retired USAF Maj Gen Charles D. Link, a strong advocate of the "halt phase" concept. General Link contributed to briefing slides made available from the USAF Doctrine Center, which further aided the author's understanding.
8. James Riggins and David E. Snodgrass, "Halt Phase Plus Strategic Preclusion: Joint Solution for a Joint Problem," *Parameters*, Autumn 1999, 70-71.
9. General John M. Shalikashvili, *Joint Vision 2010*, July 1996, 1, and General Henry H. Shelton, *Joint Vision 2020*, June 2000, 36pp.
10. Joint Warfighting Center, Concept for Future Joint Operations: Expanding Joint Vision 2010, May 1997, ii, and General Henry H. Shelton, *Joint Vision 2020*, June 2000, pp. 2-3
11. General Michael E. Ryan, briefing slides provided to the Air War College, "Expeditionary Aerospace Force: A Better Use of Aerospace Power in the 21st Century," January 1999.
12. Ibid.
13. Ibid. Also, AWC lecture by Colonel Rice (note 3).

- 14 .Author's personal experience as a plans officer on the CENTCOM staff.
15. *Jane's All the World's Aircraft*, (Surrey, U.K.: Information Group Limited), 1999, 587-591.
16. "Attack Could Signal Increased Military Presence," and "5000 Soldiers May Ultimately be Deployed," *Army Times*, December 28, 1998, 4. Also: On line. Internet, 7 December 1999. Available from <http://www.defenselink.mil/specials/desertfox> and www.arcent.mil Also: Paul Richter, "Pentagon Braces for the Unpredictable: A Counterstrike," *Los Angeles Times*, December 18, 1998, 16. Also: Richard Parker, "No Knock-out Blow to Iraq, Experts Say," *Philadelphia Inquirer*, December 21, 1998, 1.
17. The author was assigned to J3, USCENTCOM during the period that both DESERT THUNDER and DESERT FOX were conducted and was personally involved in the formulation of the plans for both operations.
- 18 Winograd, 6. During General Keane's tenure as the Division Commander of the 101st Airborne Division (AASLT) the author served as his G3 Plans officer. During that period General Keane proved to be an innovative and "out of the box" commander regarding the employment of attack helicopters. For one of the Division's regional operational plans, he was willing to place the Division's AH-64s in a supporting role for a United States Marine Corps force for a specific phase of the operation. In return, the Marine's were to support a follow-on operation for the 101st with fixed-wing Marine close air support. While not full integration, this arrangement constituted an elevated level of joint synchronization. For another plan that involved the formation of the Aviation Heavy Task Force (introduced in the body of the paper) General Keane placed the infantry and support force under the command of the aviation brigade commander. This was doctrinally and culturally a major transition. The author was not surprised when General Keane advocated the position that there were circumstances under which Army Apaches should work under JFACC control.
19. FM 100-5, *Operations*, (Washington, D.C.: Department of the Army, June 1993), Glossary.
20. Frederick L. Baker, *Fifty Questions Every Airman Should Know*, (Maxwell AFB, AL: USAF Doctrine Center, October 1999), questions 31-33, pages 47-52.
21. USAF Doctrine Center. Briefing slides, "Air Force Doctrine '99," 1999.
22. "Mothballed A-10s headed back to the flight line," *Air Force Times*, May 31, 1999, 23. Article states that initially 60 and ultimately, if resources are available, 84 A-10s will be refit, modernized, and brought back into service. While serving at USCENTCOM, the author was personally familiar with the over burdening of the A-10 force for ongoing repetitive deployment to the CENTCOM AOR.

23. The author initially referenced estimated C-17 lift sortie numbers from U.S. Army Training and Doctrine Command Briefing slides provided to the USAF War College, *TRADOC "Work in Progress,"* 29 November 1999. This data was presented in terms of the number of C-17 sorties required to lift the new medium brigade to a probable contingency theater within 96 hours. Upon coordination with TRADOC to obtain permission to use data from the slides, the author learned that many different airlift configurations using multiple combinations of lift aircraft are being considered. The author agreed not to depict the exact numbers extracted from the draft, "*Work in Progress*" briefing. It must be emphasized, however, that regardless of the airlift configuration adopted, the rapid strategic projection of a force of this size and short tonnage will be a major undertaking for both lift and tanker aircraft. This airlift operation will inevitably compete with other critical intertheater lift requirements.

24. The author assisted in the development of this task force in 1994. To deconflict the information provided with any actual plans, some of the lift estimates provided are approximate. Deployment of fuel was not considered because host nation support for fuel was available in the area in which this force was to deploy. This does not diminish the challenge or criticality of this planning for this resource. Since the AEF concept requires significant fuel supply at the forward base, the joint AEF concept would be dependent on the AEF to provide fuel for the helicopters that deploy with it. In austere environments lacking in infrastructure, or when it is not operationally feasible for helicopters to base with other AEF aircraft, the deployment of additional Army resources may be required to supplement organic AEF refueling assets. The methodology for tailoring this force package is worthy of note. The planners involved were provided a ceiling of airlift resources available (exact numbers of available C5s and C141s) for the plan and required to tailor a 3 AH-64 battalion task force to match the capability of the available lift. During this current period of increasing demand on airlift resources, this approach is an alternative method for planners to consider force packaging.

25. The author has discussed the operation with the former Brigade Commander of the 11th Aviation Brigade, Colonel Oliver Hunter, who commanded both the Bosnia Task Force and the Apache Brigade Task force deployed under Task Force Hawk. The author also has viewed numerous recently published after-action reports. As the record of the Kosovo operation has been more accurately reflected, no fault has been found with the manner in which the 11th operated. In fact, the performance of its units, commanders, and soldiers has been consistently lauded. This paper is not intended to malign this organization in any way. On the contrary, it is hoped that by suggesting a more integrated and joint approach for future operations of this nature, Army Aviation contingency deployments might be accomplished more efficiently.

26. Priest, Dana. "Army's Apache Helicopter Rendered Impotent," *Washington Post*, December 29, 1999, A1 and A22.

27. The number of C-17 sorties for the deployment of Task Force Hawk was obtained through Mr. Kelly Green of the TRANSCOM Public Affairs Office. According to the Washington Post article cited above and further detailed in the 19 April and 3 May 1999 issues of *Army Times*, the approximate force structure for Task Force Hawk included 6200 soldiers (including a 340 man headquarters element). Major equipment included: 24 AH-64 helicopters, 37 UH-60 and CH-47 helicopters, 27 MRLS systems, 14 M1A2 Abrams tanks, 42 Bradley Infantry fighting vehicles, 5 twenty ton expando vans and 190 containers of ammunition. The Washington Post article listed the sortie count as 550 and the tonnage at 26,000. The author chose to cite the lower TRANSCOM figures.

28. This sortie estimate is based on the author's experience with planning similar deployment operations for various U.S. Army Aviation task forces.

29. Preist, A22. The Washington Post article cites a report written by Army MG Richard Cody in which he states, "There was friction...Individuals in both services neither understand nor appreciate the capabilities of one another." Also: Elaine Grossman, "Army Commander in Albania Resists Joint Control Over Apache Missions," *Inside the Pentagon*, May 20, 1999, 1. This article notes that initially there was reluctance among the leadership of Task Force Hawk to allow the Apaches to be included on the ATO. While ultimately they were included, this article further outlines a pattern of doctrinal and operational disagreement between both the senior commanders on the ground and others back in the Pentagon. This article also cites a memo from an Air Force liaison officer forward deployed with the TF Hawk deep operations cell to a CONUS based USAF general, which suggested an atmosphere of incomplete joint planning and integration between the two services resulting in a failure to maximize available joint resources.

30. Winograd, 6.

31. Dickey, Connie E. "Caldera Says Change is in the Army's Future," Army News Service, Oct. 12, 1999.

32. Air Force Doctrine Document 1, *Air Force Basic Doctrine*, (Maxwell AFB, AL: Headquarters Air Force Doctrine Center, September 1997), 42.

33. National Security Strategy of the United States, *A National Security Strategy for a New Century*, (The White House, October 1998), 22.

34. Joint Warfighting Center, Briefing Slides, *Joint Interdiction Study Concepts and Capabilities*, (Fort Monroe, VA: 24 August 1999).

35. Ibid.

36. USAF Doctrine Center. Briefing slides, "Air Force Doctrine '99," 1999.

37. MG George Close, Briefing slides for lecture to the USAF War College, 1 December 1999. Navy Captain John Warnicke, Chief Joint Vision Branch, Joint Staff J-7, confirmed that MG Close gave his permission for material from his briefing to be used.

38. Ibid.
39. *Concept for Future Joint Operations*, (The Joint Staff: Washington, D.C.), 1997, 73.
40. The author interviewed USAF Colonel Greg Brown, currently an Air War College Student, but formerly assigned to Air Combat Command at Langley AFB, VA. Following Kosovo and concurrent with the cited comments by Army General Keane, Colonel Brown was involved in preliminary planning for exercises that would entail the exercise integration of Apaches and USAF units.
41. The author attended a briefing at the USAF Research Laboratory at Wright-Patterson AFB on 29 September 1999 presented by LTC Joe Heflin. While not specific to the joint AEF concept, ideas presented during that briefing provided the impetus for this section of the paper.
42. Tirpak, 25. General Dugan is paraphrasing remarks he attributes to Retired Marine Corps General Charles C. Krulak.
43. *Joint Pub 3-0, Doctrine for Joint Operations*, 1 February 1995, III-10.
44. General Dennis Reimer and General Ronald Fogelman, "Joint Warfare and the Army-Air Force Team, *Joint Forces Quarterly*, Spring 1998, 11-13.
45. Tirpak, 24.
46. Richard D. Hooker, "Joint Campaigning in 2010," *Joint Forces Quarterly*, Autumn/Winter 1998-99, 46.
47. Douglas A. Macgregor, "Command and Control for Joint Strategic Actions," *Joint Forces Quarterly*, Autumn/Winter 1998-99, 32.
48. Robert B. Killibrew, "The Army of the 21st Century," *Army*, January 2000, 12.

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The Center for Strategy and Technology was established at the Air War College in 1996. Its purpose is to engage in long-term strategic thinking about technology and its implications for U.S. national security.

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